



**U.S. Department of Energy**  
**Office of River Protection**

**P.O. Box 450  
Richland, Washington 99352**

02-OSR-0374

Mr. R. F. Naventi, Project Manager  
Bechtel National, Inc.  
3000 George Washington Way  
Richland, Washington, 99352

Dear Mr. Naventi:

CONTRACT NO. DE-AC27-01RV14136 – APPROVAL OF BECHTEL NATIONAL, INC (BNI) AUTHORIZATION BASIS CHANGE NOTICES 24590-WTP-ABCN-ESH-01-005, REV. 1, AND 24590-WTP-ABCN-ESH-01-006, REV. 1

- References:
1. BNI letter from A. R. Veirup to M. K. Barrett, ORP, "Transmitted for Approval: Contract Deliverable - Revised Standards Approval Package and Associated Authorization Basis Change Notices in Support of the SRD Standards Approval Package Submittal," CCN 026385, dated January 15, 2002.
  2. BNI letter from A. R. Veirup to M. K. Barrett, ORP, "Transmitted for Approval: Contract Deliverable - Revised Standards Approval Package Update and Revision 1 to Associated Authorization Basis Change Notices in Support of the SRD Standards Approval Package Submittal," CCN 028977, dated March 22, 2002.
  3. BNI letter from A. R. Veirup to M. K. Barrett, ORP, "Closeout Comments on Low Activity Waste and High Level Waste Construction Authorization Requests," CCN 033563, dated May 23, 2002.
  4. BNI letter from A. R. Veirup to M. K. Barrett, ORP, "Closeout Comments on Low Activity Waste and High Level Waste Construction Authorization Requests," CCN 033571, dated June 11, 2002.

The U.S. Department of Energy, Office of River Protection (ORP) has reviewed Authorization Basis Change Notices (ABCN) 24590-WTP-ABCN-ESH-01-005, Revision 0, and 24590-WTP-ABCN-ESH-01-006, Revision 0, submitted in Reference 1. The ABCNs were revised and resubmitted as Revision 1 in Reference 2. The ABCNs proposed changes to the Safety Requirements Document (SRD) and involve modifications to the Implementing Codes and Standards for several SRD Safety Criterion.

The amendment transmitted as 24590-WTP-ABCN-ESH-01-005 proposes the following change to the SRD in the area of operations: replacement of references to Sections 1.3.13, 1.3.14, and 1.3.15 of the ISMP as implementing standards for Conduct of Operations with a reference to DOE 5480.19 as tailored in Appendix C of the SRD for Safety Criteria 7.0-1, 7.0-3, 7.5-1, and 7.5-2. The amendment transmitted as 24590-WTP-ABCN-ESH-01-006 proposes the following change to the SRD in the area of Maintenance: replacement of references to Sections 1.3.10, 1.3.11, 3.2, 3.4, 3.13, 3.16.3, 3.16.5, 3.16.6, 3.16.8, 4.2.1, 4.2.2, 5.3, 5.4, 5.6.5, 10.0, and 11.0 of the ISMP as implementing standards for Maintenance with a reference to DOE O 433.1, *Maintenance Management Program for DOE Nuclear Facilities* as tailored in Appendix C of the SRD for Safety Criteria (SC) 7.6-1 through 7.2-4. In addition, the Contractor proposed changes to the section on “maintainability” in SRD Appendix E, *Reliability, Availability, Maintainability, and Inspectability*.

Based upon evaluation, the proposed changes are acceptable. There is reasonable assurance that the health and safety of the public and the workers, and the environment will not be adversely affected by the changes, and that they comply with applicable laws, regulations, and RPP-WTP contractual requirements. Attached is a Safety Evaluation Report for the proposed changes. Note that for the change made to SRD Safety Criterion 7.6-3, the approval of the change is conditional based on BNI following through with commitments made in responses to a question submitted by ORP. The commitments are described in detail in the responses to Question ABCN-ESH-01-006-01 transmitted by Reference 3 and Question LAW-PSAR-172 transmitted by Reference 4.

As part of the amendment implementation process, please submit within 14 days of receipt of this letter the revised pages of the SRD, identifying all revisions to date. This amendment is effective immediately and shall be fully implemented within 30 days; i.e., the provisions of the amendment may be used immediately; within 30 days, controlled copies of the SRD and subordinate documents must be modified to reflect the changes associated with this amendment.

If you have any questions, please contact me, or your staff may contact Dr. Walter J. Pasciak, Office of Safety Regulation, (509) 373 9189.

Sincerely,

Roy J. Schepens  
Manager

OSR:WJP

Attachment

**Safety Evaluation Report (SER)  
of Proposed Authorization Basis Change Notices  
24590-WTP-ABCN-ESH-01-005, Rev. 1  
24590-WTP-ABCN-ESH-01-006, Rev. 1  
to the Safety Requirements Document and the  
Integrated Safety Management Plan  
for the River Protection Project-Waste Treatment Plant  
by the Office of Safety Regulation**

## **1.0 INTRODUCTION**

The River Protection Project Waste Treatment Plant (RPP-WTP) authorization basis is the composite of information provided by the Contractor in response to radiological, nuclear, and process safety requirements that is the basis on which the Office of Safety Regulation (OSR) Safety Regulation Official grants permission to perform regulated activities. The authorization basis includes that information requested by the Contractor for inclusion in the authorization basis and subsequently accepted by the OSR. The authorization basis for the RPP-WTP includes the Safety Requirements Document (SRD) and the Integrated Safety Management Plan (ISMP). The SRD contains the approved set of radiological, nuclear and process safety standards and requirements, which if implemented, provide adequate protection of workers, the public, and the environment against the hazards associated with the operation of the facility. The ISMP defines a set of integrated activities that is directed toward the management or control of radiological, nuclear, and process hazards such that adequate protection is provided to workers, the public, and the environment. By letter dated January 15, 2002,<sup>1</sup> Bechtel National, Inc., (Contractor) submitted proposed amendments to the SRD, and by letter dated March 22, 2002,<sup>2</sup> the amendments were revised. This SER documents the OSR evaluation of the changes proposed by the Contractor in the areas of Operations and Maintenance.

The amendment transmitted as Authorization Basis Change Notice (ABCN) 24590-WTP-ABCN-ESH-01-005 proposes the following change to the SRD in the area of operations: Replacement of references to sections 1.3.13, 1.3.14, and 1.3.15 of the ISMP as implementing standards for Conduct of Operations with a reference to DOE 5480.19 as tailored in Appendix C of the SRD for Safety Criteria 7.0-1, 7.0-3, 7.5-1, and 7.5-2. The amendment transmitted as ABCN 24590-WTP-ABCN-ESH-01-006 proposes the following change to the SRD in the area of Maintenance: Replacement of references to sections 1.3.10, 1.3.11, 3.2, 3.4, 3.13, 3.16.3, 3.16.5, 3.16.6, 3.16.8, 4.2.1, 4.2.2, 5.3, 5.4, 5.6.5, 10.0, and 11.0 of the ISMP as implementing standards for Maintenance with a reference to DOE O 433.1, *Maintenance Management Program for DOE Nuclear Facilities* as tailored in Appendix C of the SRD for Safety Criteria (SC) 7.6-1 through 7.2-4. In addition, the Contractor proposed to rewrite the section on "maintainability" in SRD Appendix E, *Reliability, Availability, Maintainability, and Inspectability*.

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<sup>1</sup> BNI letter from A. R. Veirup to M. K. Barrett, ORP, "Transmitted for Approval: Contract Deliverable 'Revised Standards Approval Package and Associated Authorization Basis Change Notices in Support of the 'SRD Standards Approval Package Submittal,'" CCN 026385, dated January 15, 2002.

<sup>2</sup> BNI letter from A. R. Veirup to M. K. Barrett, ORP, "Transmitted for Approval: Contract Deliverable 'Revised Standards Approval Package Update' and Revision 1 to Associated Authorization Basis Change Notices in Support of the 'SRD Standards Approval Package Submittal,'" CCN 028977, dated March 22, 2002.

## 2.0 BACKGROUND

The SRD describes the process for identifying hazards, developing control strategies, and selecting standards for the WTP. Section 7.0 of the SRD requires that normal operations be conducted in accordance with approved safety requirements and in strict accordance with procedures, and that operating organizations maintain familiarity with design features and limitations. Section 7.5 of the SRD requires establishing and implementing a program for the conduct of operations and describes 19 elements that the program must address.

The current implementing codes and standards for the SRD requirements are contained in 24590-WTP-ISMP-ESH-01-001, *Integrated Safety Management Plan*, Sections 1.3.13, *Procedures*, 1.3.14, *Commissioning*, and 1.3.15, *Operations*. ABCN 24590-WTP-ABCN-ESH-01-005 proposes to replace these ISMP standards with the requirements of DOE 5480.19, *Conduct of Operations Requirements at DOE Facilities*. This Order is a well-proven and established standard used at Hanford and throughout the DOE complex for conduct of operations. DOE 5480.19 contains similar and more detailed guidance as the referenced sections of the ISMP for conduct of operations such that there would be no reduction in effectiveness if it were used. The Contractor, therefore, requests approval to use the Order as the implementing standard for WTP conduct of operations. None of the safety criteria themselves are proposed to be changed. The proposed amendment only changes the implementing codes and standards.

Section 7.6 of the SRD requires that a Maintenance program be developed and implemented that contains provisions sufficient to preserve, predict, and restore the availability, operability, and reliability of structures, systems, and components (SSCs) that are important-to-safety (ITS). The Maintenance program for ITS SSCs shall define the management systems for conduct of maintenance, responsibilities and authorities of the maintenance organization, indicators to measure performance, interfaces among organizations, scope of ITS SSCs covered by the maintenance program, authorization and impact evaluations for modifications, and other aspects required by SC 7.6-3. In addition, the Maintenance program shall address 17 specific elements stated in SC 7.6-4.

The current implementing codes and standards for the SRD requirements in SC 7.6-1 through 7.6-4 are contained in 24590-WTP-ISMP-ESH-01-001, *Integrated Safety Management Plan*, Sections 1.3.10, *Classification of Structures, Systems, and Components*; 1.3.11, *Quality Levels*; 3.2, *Safety Responsibilities*; 3.4, *Safety/Quality Culture*, 3.13, *Reliability, Availability, Maintainability, and Inspectability*; 3.16.3, *Incident Investigations*; 3.16.5, *Performance Monitoring*; 3.16.6, *Performance Indicators*; 3.16.8, *Feedback and Trending*; 4.2.1, *Engineered Features*; 4.2.2, *Training and Procedures*; 5.3, *Configuration Management*; 5.4, *Compliance Audits*; 5.6.5, *Mechanical Integrity*; 10.0, *Assessments*; and 11.0, *Organization Roles, Responsibilities, and Authorities*. ABCN 24590-WTP-ABCN-ESH-01-006 proposes to replace these ISMP standards with the requirements of DOE O 433.1, *Maintenance Management Program for DOE Nuclear Facilities* as tailored in proposed SRD Volume II, Section C.

The Contractor requests approval to use this Order as the implementing standard for the cited SRD SC. DOE O 433.1 contains similar and more detailed guidance than the referenced sections of the ISMP, such that there would be no reduction in effectiveness if it were used.

### 3.0 EVALUATION

#### 3.1 ABCN 24590-WTP-ABCN-ESH-01-005, Revision 1

- 3.1.1 "Tailoring" of DOE 5480.19: The Contractor proposes to tailor the Order by deleting references to DOE Orders or Standards in DOE 5480.19 that are not imposed on the RPP-WTP by DOE or committed to by the Contractor in an Authorization Basis (AB) document. Tailoring has also been performed to add information to reflect contract requirements, and delete information that pertains to DOE's imposition of the Order on the Contractor. The tailoring of DOE 5480.19 consists of (1) deleting references to DOE orders and other standards (e.g., NUREGs) that are not imposed on the RPP-WTP or committed to by the Contractor in an AB document, (2) adding standards that are imposed on the RPP-WTP or committed to by the Contractor in an AB document, and (3) deleting information that applies only if the Order is imposed by DOE on the Contractor as an order, as opposed to its being selected by the Contractor for use as an SRD implementing standard.

Evaluation (acceptable): The tailoring is acceptable because it has minimal impact on the fundamental requirements of the Order for conduct of operations and is consistent with the Safety Criteria.

OSR question ABCN-ESH-01-005-02 dealt with the lack of tailoring for terms and terminology used in the Order that were not consistent with those used on the RPP-WTP Project. In its response, the Contractor provided equivalencies between specific terms and terminology used in the Order and those used on the Project that were acceptable to OSR.<sup>3</sup>

- 3.1.2 Proposed change to SRD SC 7.0-1: Replace reference to the ISMP for this Safety Criteria with reference to DOE 5480.19 for conducting normal operations in accordance with approved operational safety requirements and in strict accordance with administrative and procedural controls.

Evaluation (acceptable): The proposed revision is acceptable because the information in DOE 5480.19 is similar to and more detailed than that in the replaced ISMP standards, and adequately addresses SC 7.0-1. In particular, Chapters XVI and VII of the Order require operating procedures be written to provide specific direction for operating systems and equipment during normal, abnormal, and emergency conditions; and the facility be operated through adherence to operating procedures and compliance with operational limits. The proposed change is not a reduction in commitment or effectiveness.

- 3.1.3 Proposed change to SRD SC 7.0-3: Replace reference to the ISMP for this Safety Criteria with reference to DOE 5480.19 for the operating organizations to become and remain familiar with the features and limitations of components included in the design of

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<sup>3</sup> BNI letter from A. R. Veirup to M. K. Barrett, ORP, "Closeout Comments on Low Activity Waste Construction Authorization Requests," CCN 035142, dated August 6, 2002.

the facility, and to obtain input from the design organization on pre-operational testing, operating procedures, and planning and conducting training.

Evaluation (acceptable): The proposed revision is acceptable because the information in DOE 5480.19 is similar to and more detailed than that in the replaced ISMP standards, and adequately addresses SC 7.0-3. The Contractor supplemented its ABCN evaluation of the manner in which the proposed implementing standard addresses SC 7.0-3 in its response to OSR question ABCN-ESH-01-005-01<sup>4</sup>. In its response, the Contractor cited Chapter VIII of DOE 5480.19 on Control of Equipment and System Status. This chapter requires that the operating shifts be made aware of how equipment and systems will function for operational purposes, and that a system be established to ensure that operations personnel receive and utilize the latest revisions of engineering drawings and specifications. This, coupled with the implementing standards for meeting the SC associated with training (7.2-1 through 7.2-4) adequately address SC 7.0-3. The proposed change is not a reduction in commitment or effectiveness.

- 3.1.4 Proposed change to SRD SC 7.5-1: Replace reference to the ISMP for this Safety Criteria with reference to DOE 5480.19 for establishing and implementing a program for conduct of operations using a tailored approach.

Evaluation (acceptable): The proposed revision is acceptable because the information in DOE 5480.19 is similar to and more detailed than that in the replaced ISMP standards, and adequately addresses SC 7.5-1.

- 3.1.5 Proposed change to SRD SC 7.5-2: Replace reference to the ISMP for this Safety Criteria with reference to DOE 5480.19 for addressing the 19 elements of the conduct of operations required by the SC.

Evaluation (acceptable): The proposed revision is acceptable because the information in DOE 5480.19 is similar to and more detailed than that in the replaced ISMP standards, and adequately addresses SC 7.5-2. DOE 5480.19 Attachment 1 contains chapters that align exactly with 18 of the 19 elements cited in SC 7.5-2, and a chapter that adequately addresses the remaining element. The proposed change is not a reduction in commitment or effectiveness.

### **3.2 ABCN 24590-WTP-ABCN-ESH-01-006, Revision 1**

- 3.2.1 "Tailoring" of DOE O 433.1 and DOE Guide 433.1-1: The Contractor proposes to tailor DOE O 433.1 and DOE Guide 433.1-1 *Nuclear Facility Maintenance Management Program Guide for Use with DOE O 433.1* by deleting references to DOE Orders or Standards that are not imposed on the RPP-WTP by DOE or committed to by the Contractor in an Authorization Basis (AB) document. Tailoring has also been performed to delete information concerning requirements pertaining to other types of nuclear facilities that clearly do not apply to the RPP-WTP. Tailoring of DOE Guide 433.1-1 is

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<sup>4</sup> Ibid 3.

required to broaden the Contractor's intended scope of the preventive maintenance program beyond that described in the Guide. The tailoring of DOE O 433.1 consists of (1) deleting references to DOE orders and other standards that are not imposed on the RPP-WTP or committed to by the Contractor in an AB document, (2) adding standards that are imposed on the RPP-WTP or committed to by the Contractor in an AB document, and (3) deleting information that applies only if the Order is imposed by DOE on the Contractor as an order, as opposed to its being selected by the Contractor for use as an SRD implementing standard. It is also being tailored to broaden the scope of the Contractor's intended preventive maintenance program (to include predictive maintenance) beyond that described in the Guide.

Evaluation (acceptable): The tailoring is acceptable because it has minimal impact on the fundamental requirements of the Order relative to its use as an implementing standard for SRD SC related to Maintenance, and on the Guide relative to its use in preparing the WTP Maintenance Program. Therefore, tailoring of DOE O 433.1 and DOE Guide 433.1-1 for application to SRD SC 7.6-1 through 7.6-4 is acceptable. The tailoring does not represent a reduction in commitment or effectiveness.

- 3.2.2 Proposed change to SRD SC 7.6-1: Replace reference to the ISMP for this Safety Criteria with reference to DOE O 433.1 for developing and implementing a maintenance program using a tailored approach.

Evaluation (acceptable): The proposed revision is acceptable because the information in DOE O 433.1 is similar to and more detailed than that in the replaced ISMP standards, and adequately addresses SC 7.6-1. In particular, the Order requires that a Maintenance Implementation Plan (MIP) be developed using a graded approach. The Guide provides extensive detail relative to developing the program for each required program element. The proposed change is not a reduction in commitment or effectiveness.

- 3.2.3 Proposed change to SRD SC 7.6-2: Replace reference to the ISMP for this Safety Criteria with reference to DOE O 433.1 for assuring that the maintenance program contains sufficient provisions to preserve, predict, and restore the availability, operability, and reliability of components designated ITS.

Evaluation (acceptable): The proposed revision is acceptable because the information in DOE O 433.1 is similar to and more detailed than that in the replaced ISMP standards, and adequately addresses SC 7.6-2. In particular, the Order requires that a Maintenance Implementation Plan (MIP) be developed using a graded approach. The MIP is intended to provide an additional level of detail that will facilitate the development of the program to ensure that it meets the requirements of DOE O 433.1. The MIP contains provisions to ensure that all ITS SSCs are covered under the WTP Maintenance Program.

- 3.2.4 Proposed change to SRD SC 7.6-3: Replace reference to the ISMP for this Safety Criteria with reference to DOE O 433.1 for clearly defining the maintenance program requirements under this SC.

Evaluation (conditionally acceptable): The "requirements" section of DOE O 433.1 (tailored as proposed by ABCN 24590-WTP-ABCN-ESH-01-006, Revision 1) addresses most, but not all, of the requirements of SC 7.6-3 through elements and criteria in the MIP. OSR, in question ABCN-ESH-01-006-01 requested clarification from BNI as to where or how the implementing standard (and the MIP) assures that reliability targets are established for systems and components to start or run when such values are credited in the safety analysis. In its response<sup>5</sup>, BNI committed to add to the MIP that, "Engineering will evaluate ITS SSC's and the safety analysis to determine quantitative reliability targets, incorporate these into Technical Safety Requirements, and maintenance will ensure inclusion into the preventive maintenance program." Also OSR, in question LAW-PSAR-172 requested clarification of the MIP's inclusion of BNI's commitment to initiate and maintain a list of the ITS SSC's that are within the scope of the Maintenance Program. In its response<sup>6</sup>, BNI committed to add to the MIP that, "The Maintenance Program will implement the requirements of the TSR's and preventive maintenance as prescribed by Engineering in performing work on ITS SSC's comprising the facility." The proposed change is acceptable on the condition that the Contractor adds to the MIP the items described above. In addition, the proposed change is acceptable because it is not a reduction in commitment or effectiveness and is consistent with the Safety Criteria it implements.

- 3.2.5 Proposed change to SRD SC 7.6-4: Replace reference to the ISMP for this Safety Criteria with reference to DOE O 433.1 to provide a maintenance program that addresses each of the 17 elements listed under SC 7.6-4.

Evaluation (acceptable): The proposed revision is acceptable because DOE O 433.1 requires that a Maintenance Implementation Plan (MIP), approved by DOE, be developed using a graded approach. The MIP contains 18 elements, 17 of which exactly address the maintenance program elements required in SC 7.6-4. Because DOE O 433.1 does not, itself, contain the required elements of SC 7.6-4 (but instead requires a MIP that contains the subject elements), OSR questioned BNI (ABCN-ESH-01-006-01-03) about the manner in which future changes to the MIP are controlled to ensure that the required program elements continue to be maintained. The Contractor responded by citing the requirement that changes made to the MIP will require DOE approval, inasmuch as DOE is the "approving authority." Therefore, DOE will have final approval of any change to the program (via a change to the MIP) that might be a reduction in scope, commitment, or effectiveness. The proposed change is not a reduction in commitment or effectiveness.

- 3.2.6 Proposed change to SRD Appendix E, Reliability, Availability, Maintainability, and Inspectability: The paragraph on "maintainability" is rewritten in its entirety.

Evaluation (acceptable): Although the Contractor significantly revised the subject paragraph, the basic tenets and principles relating to "maintainability" remain consistent

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<sup>5</sup> BNI letter from A. R. Veirup to M. K. Barrett, ORP, "Closeout Comments on Low Activity Waste and High Level Waste Construction Authorization Requests," CCN 033563, dated May 23, 2002.

<sup>6</sup> BNI letter from A. R. Veirup to M. K. Barrett, ORP, "Closeout Comments on Low Activity Waste and High Level Waste Construction Authorization Requests," CCN 033571, dated June 11, 2002.



with those in the superceded paragraph, as well as with Top-Level Safety Standards. The proposed change is not a reduction in commitment or effectiveness.

#### **4.0 CONCLUSION**

On the basis of the considerations described above, OSR has concluded there is reasonable assurance that the health and safety of the public and the workers will not be adversely affected by the proposed changes. The proposed changes to the SRD do not constitute a reduction in commitment or effectiveness relative to the conduct of operations.